

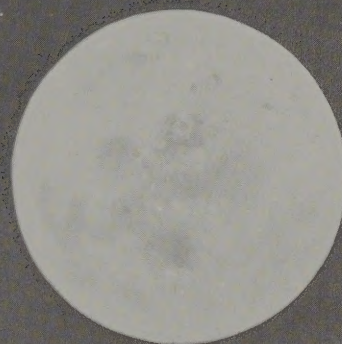
Your Public Lands

Autumn 1984

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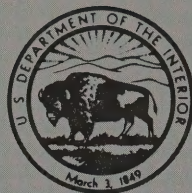


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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

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Your Public Lands

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Number 4

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Editor: Haywood Meeks

Graphic Designer: Philip E. Kromas

Better Land Management Through Land Ownership Adjustments

By Frank A. Edwards and Mark D. Etchart

Throughout the history of our Nation, the public lands have played a major role in the progress and expansion of our society. Without these lands, settlement of the western frontier of the United States could have been much more difficult. The result might have been a much different political and economic structure than we have today.

The Federal Government has, at various times, held title to about 80 percent of the Nation's total land surface of about 2.27 billion acres. All but the original 13 States, Texas, and Hawaii were at one time lands owned by the Federal Government. Today, Federal agencies administer 730 million acres, or 32 percent of the gross area. The Bureau of Land

Management (BLM) has jurisdiction over almost half of this total, or 342 million acres. BLM also is responsible for administration of one or more minerals on about 66 million acres where the surface is in non-Federal ownership.

To date, title to over 1.1 billion acres has been transferred to States, individuals, businesses and non-Federal governmental units



More than 90 million acres in Federal land grants were made by Congress to aid construction of railroads. The railroad land alternated with tracts of BLM-managed land of the same size, creating a checkerboard effect. Much of this checkerboard pattern remains today in Western States.



Various homesteading laws that permitted the transfer of public land out of Federal ownership helped create some of the current irregular patterns of public land. Some 287 million acres of public land were granted or sold through these laws.

under various public land laws. About 591 million acres were removed from Federal ownership through homesteading; public, private and preemption sales; mineral entries, and sales of townsites and townlots. In addition, 328 million acres were granted to States to help support public schools and roads, and to foster economic development.

Irregular Land Patterns

Wide-ranging and often unrelated disposal authorities were major factors leading to the current, irregular land patterns. Early Federal policies sought chiefly to quickly dispose of western lands to promote settlement. These early disposals were made without planning and led to a hodgepodge of State and private ownerships in-

terspersed among the Federal lands.

Early public land policies also provided grants of Federal lands to each State as it entered the Union. While fragmented land patterns often were created, much progress also has occurred. A most notable result was generation of funds to establish and operate public school systems. Almost 78 million acres were granted to the States for support of the common schools. Additional grants, totaling approximately 146 million acres, were made to States other than Alaska for other schools and institutions, railroads, wagon roads, canals and rivers, swamp reclamation and other purposes.

Checkerboard

A multitude of public land laws were passed in the mid-1800's authorizing transfer of large quantities of land out of the public domain. The Railroad Act of 1850 and the Rights-of-Way Act of 1852 granted Federal lands to railroad companies. In return for transcontinental railroad construction, they received even numbered sections of surveyed public land in bands 4 to 20-miles wide on both sides of the rights-of-way. The purpose of the grants, which included



To foster better land management, isolated hard-to-manage tracts of public land are sometimes sold. The sale must be in the public interest, and the U.S. Government must receive fair market value for the land.

mineral rights, was to finance railroad construction through sale by the railroads of the lands granted them, and thereby also promote settlement along the railroad lines. It was hoped that settlement of the railroad grant lands would result in higher values obtained from the sale of the alternating Federal sections. By about 1880 more than 90 million acres of alternate sections had been transferred. This created more than 180 million acres of "checkerboard" (90 million acres of railroad land, plus an equal amount of public land). Much of this checkerboard pattern remains today in the Western States.

The Timber and Stone Act of 1878 authorized the sale of public lands especially valuable for timber or stone, and otherwise unfit for cultivation. The Timber Culture Act of 1873 granted land to anyone who would agree to plant trees on a specified portion of the area. The Desert Land Act of 1877 provided for the claim of large desert areas under the condition that the applicant irrigate a portion. Some 287 million acres were granted or sold through homestead laws. These Acts were all seen as ways to promote development and settlement of the vast Federal lands.

Large expanses of public lands have also been segmented by establishment of Indian reservations, national parks, national forests, wildlife refuges and many large military facilities.

Current Management

Past disposal techniques have created problems for the present-day land manager. The public lands and the subsurface rights managed by BLM are scattered across almost all 50 States. These parcels range from less than an acre, to "checkerboard" sections, to multi-thousand-acre blocks in the desert Southwest. This brings us to the central problem for the land manager: how do you manage the public lands in a



The Recreation and Public Purposes Act authorizes BLM to make suitable lands available free or at discount rates to States, local governments, and nonprofit groups for schools, parks, airports, community centers, and other recreation and public purposes.

manner which will promote the highest and best use, best serve public interest, and lend itself to effective and efficient management?

In carrying out its management responsibilities, BLM uses very similar policies and practices in all areas under its jurisdiction. In most land management situations there is little difference in how BLM approaches land management of large and small tracts, though there are often exceptions which require ingenuity by the land manager to resolve. For instance, grazing allotments on BLM lands that are co-mingled (i.e. "checkerboard") with railroad

lands are often managed through exchange-of-use grazing agreements. Under these agreements, the owner or lessee of the non-Federal land surrenders to BLM some grazing management responsibilities on the private land in return for the privilege of grazing his livestock on the adjacent or surrounding BLM-managed land. Consolidation of the entire grazing area makes management easier and permits livestock to graze a larger area covering both private and public lands.

Planning

One of the key elements used

by BLM managers to select the appropriate use for the public lands is land use planning. Land use plans are designed to guide and control future management actions and the development of subsequent, more detailed action plans for lands and their use. Land use planning also is a valuable means toward consistency with plans and programs of State, local and other Federal agencies. Planning activities undertaken by BLM also place great importance on public input, both written comments and public meetings. This assures public participation when BLM is examining proposals to continue or adjust land patterns.

BLM continues to develop and employ several programs to consolidate and adjust land patterns. The three most common are: BLM-Forest Service (FS) adjustments, exchanges and sales.

Adjustments

BLM-FS adjustments are congressionally authorized transfers of jurisdiction. Such transfers are made to improve land and timber management and reduce costs to the Federal government. For instance, if there are parcels of FS land that are remote and isolated from FS management, but are within or near an area administered by BLM, then BLM and FS may seek an adjustment to permanently transfer management authority and control of the land to BLM. Since congressional approval of these adjustments takes time, BLM and FS often enter into cooperative management agreements. These agreements allow the other agency to manage some of its land or associated programs for a specified period of time.

Exchanges

The second method used by BLM to consolidate lands is by exchange. Lands can be exchanged between BLM and corporations, individuals, or States. State ex-



Land exchanges between BLM and the States simplify management. BLM Director Robert Burford (right) presents title to BLM land to Oregon State Treasurer Bill Rutherford in exchange for a like amount of widely scattered State-owned land intermingled with BLM-managed land.

changes were originally authorized 50 years ago under provisions of the Taylor Grazing Act. Such exchanges can create a new management area where everyone benefits.

In an exchange completed in May 1984, for example, BLM traded 119,135 acres of grazing land to the State of Oregon for 118,518 acres of widely scattered State land that was difficult for the State to manage, but was surrounded by BLM-administered lands. Elimination of these State "inholdings" significantly simplified the job of the Federal and State land managers.

This exchange, the largest in BLM history, provides an excellent example of the ongoing and ever-increasing cooperation between the States and BLM. It is difficult to comprehend the magnitude of this exchange, but it was roughly equivalent to 371 square miles. Moreover, it represented only a good beginning. Other State-BLM exchanges "in the mill" include: Arizona, 276,000 acres; California, 65,000; Colorado, 28,000; Idaho, 7,000; Montana and the Dakotas,

205,000. (The figures include both State and BLM lands involved.)

In all, BLM expects that title to some 550,000 acres will change hands between BLM and the State of Oregon this year. Additionally, much of the acreage listed for the other States will be traded this year.

Sales

Another means used by BLM to reduce irregular land patterns is public sale. This program targets scattered, isolated and, usually, relatively small tracts, found to be difficult and costly to manage. Sales are conducted at fair market value and have proven beneficial in transferring lands to private ownership for community expansion and economic development. About 10,000 acres per year are being sold under this program.

There are also several other means for the transfer of Federal lands to States and individuals. These include State indemnity selections, recreation and public purposes leases and sales, Carey and Desert Land Act disposals,

and Indian allotments.

Clearly, in terms of acreage involved and opportunities for consolidation of Federal, State, and private ownerships, exchanges will continue to be the principal vehicle. However, they are not without drawbacks or limitations. Landholders must be willing to exchange; there must be agreement on the values of the lands being traded; they must be in the same State; and the offered non-Federal lands can be acquired only "if the public interest will be well served."

The legacy of past disposal practices is a patchwork pattern of millions of public land acres that are strung out, checkerboarded,

fragmented, and heavily interspersed with other ownerships. This intermingling of owners makes management difficult for BLM and other Federal agencies, as well as State and local entities, Indian reservations, and private landowners. Clearly, an aggressive land tenure adjustment program—designed to direct both the acquisition and disposal of public lands toward better efficiency and consistency in the management of Federal lands—should achieve the following goals:

- Complement BLM's land use planning efforts;
- Convey lands to provide for stable and beneficial patterns of public and private land

use;

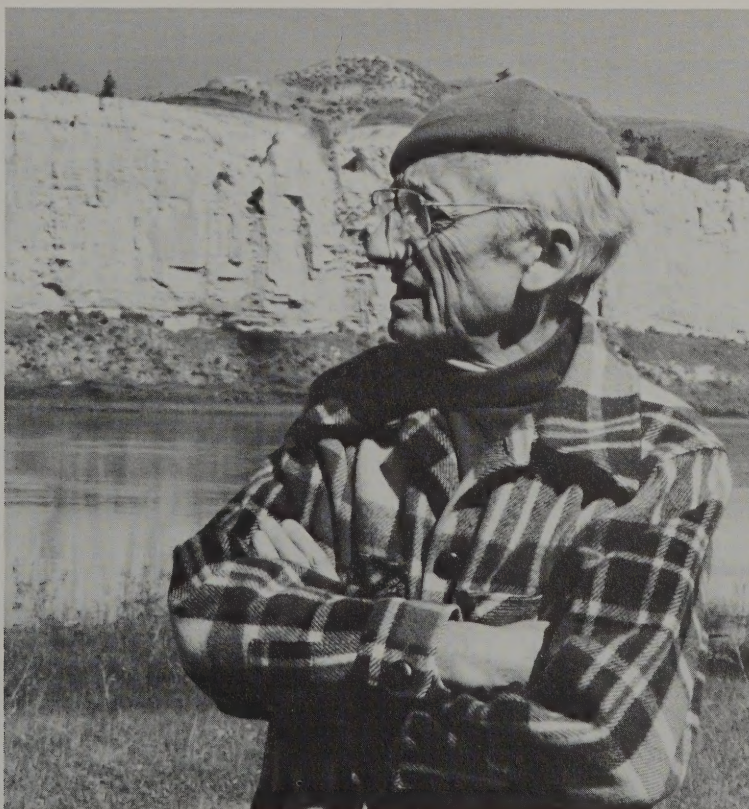
- Acquire lands needed for enhanced management of existing public land and resources; and
- Cooperate with other public agencies in the management of adjacent and interspersed lands to assure that adjustment plans are consistent with the land-use plans and needs of others.

Frank A. Edwards is the Assistant Director for Land Resources in BLM's Headquarters Office. Mark D. Etchart is a research assistant in BLM's Lands Division, Washington, D.C.

Cousteau Explores Missouri River

French explorer Jacques Cousteau contemplates the spectacular white cliffs along the Upper Missouri Wild and Scenic River. Cousteau was in Montana filming portions of a documentary on the world's great rivers. The 149-mile Wild and Scenic section of the Missouri is managed by the Bureau of Land Management.

(BLM photo by Greg Albright)



Sky-High Over Owens Valley

Article and photography by Joseph Pollini

Public lands around Bishop, California provide a wide range of recreational uses for the public, such as an international hanggliding classic, a horseback riding endurance event, a runners' marathon, helicopter skiing, and guided rock climbing activities. Various groups apply to the Bureau of Land Management's local office yearly for the recreation permits required to hold these events on public lands.

Perhaps the most daring and exciting of these activities is the International Hanggliding Classic which attracts participants from all parts of the world. In this competition, based on flying time and

distance, the gliders soar like eagles over the Owens Valley and White Mountains. Some of the participants travel from as far away as Brazil, Japan, Great Britain, Australia, and Venezuela to compete and set new flying records.

The 50-mile-long White Mountain Range is the starting point for the event. This range borders the east side of the Owens Valley beginning at Boundary Peak (13,145 feet) in Nevada and terminating at Westgard Pass south of Bishop. According to Don Partridge, co-owner of the Bishop Hanggliding Center which sponsored the contest, the White

Mountains are "the best hanggliding area in the world."

The prevailing westerly winds, cresting over the east slope of the Sierra Nevada range, dipping into the Owens Valley, then rising over the west face of the Whites, create a phenomenon known as the "Sierra Wave." This "wave" of air helps produce thermals, or rising columns of warm air which are capable of lifting gliders to 15,000-foot elevations.

Joseph Pollini is an outdoor recreation planner in BLM's Bishop Resource Area, Bakersfield District, California.



Letter from Alaska

There Are Strange Things Done in the Midnight Sun

By Joette Storm and Paul Savercool

If it were possible for a giant hand to appear out of the blue and magically pluck up the State of Alaska, whisk it far to the south, and plunk it down over the Lower 48 to see how it fits, the comparison would be incredible! Like grandpa trying on his World War II uniform after forty-odd years, Alaska would bulge at the seams.

Amazingly enough, Juneau, Alaska's capital, would wind up in

St. Petersburg, Florida; Anchorage would land somewhere in west Tennessee; Fairbanks would come to light in eastern Kentucky; Barrow would find itself in Canada; and the western tip of the Aleutians would jut out like an icy chin into the Pacific Ocean, off California's southern coast!

Alaska is a land of superlatives. Any comparison in size between "The Great Land" (as Alaskans call their home) and any other

State would be outlandish. It's prodigious! It's downright paradoxical in its sheer magnitude!

Believe it or not, there's even some three hundred miles more oceanfront property around western Alaska than the rest of the Nation combined. That's throwing in the island State of Hawaii to boot!

The size of Alaska makes it hard for folks up here to admit to



anything of a diminutive nature. Just ask anyone. You'll find that things are not only bigger but prettier, clearer, deeper, neater, richer, greener, stronger, more abundant, and/or just plain better than anything, anywhere else.

Robert W. Service, the famed poet of the North Country said in his *Cremation of Sam Magee*, "There are strange things done in the midnight sun . . ." Certainly "different" or "unique" would be more expressive words to use than "strange," but then that's the way RWS saw it, and his poem is too strongly ensconced in American literature to argue the point.

"Unique" lends itself nicely to explaining the origins of the Alaska grazing program, for example. First, we had full-fledged grazing legislation seven years before the Taylor Grazing Act saw the light of enactment within the halls of Congress. The Alaska Grazing Act was passed in 1927.

The original Alaska Grazing Act actually came about not because of cattle and sheep grazing but, according to reports dating back to 1925, the needs of another

species of animal that came to be considered Alaska livestock: burgeoning herds of reindeer! That's unique.

That year Alaska Territorial Governor George A. Parks made the first official request for passage of legislation to control and allocate grazing lands to then Secretary of the Interior Hubert Work. Parks wanted herd owners to have the right to lease or be allocated parcels of land for grazing the large species of what the Governor called "Russian deer." He felt the reindeer industry would be a boon for the Territory.

And, as it turned out, the Governor hit the nail on the head. The Act was passed in 1927, and the herds of migrating animals have fed and clothed thousands of Alaskan people since. They also created a dramatic impact on the economy over the years.

The introduction of reindeer actually began toward the end of the last century, in 1891, with the importing of a scant 16 head from Siberia. This original transaction was negotiated through the use of private money and spurred on by the conviction of Sheldon Jackson,

an agent for the Bureau of Education, that the Russian deer were the answer to the many privations of food and clothing being suffered by the Alaska Natives. Even that far back modern technology had made it possible to thin out the subsistence meat and fur supplies so sharply that Natives were hard-pressed for food and clothing; guns were more effective than hand-thrown harpoons and spears, and kayaks couldn't compete with whaling fleets.

The next year, 1892, the government purchased an additional 171 reindeer, and budgeted similar expenditures annually until 1902, when Russian Czar Nicholas II put a stop to trading. By then, however, the seed herds had been established and were proliferating in the new Alaskan environment and Siberian imports were no longer necessary.

Presently, there are 13 active reindeer grazing permits in the State, all in the Bureau of Land Management's (BLM) Fairbanks District.

An interesting side note to the economic impact of the Russian deer to the North Country: For some reason people in the Orient decided that reindeer horn in the velvet (when the immature antlers are covered with a satin-like material before the bone-hardness of maturity) would make a strong aphrodisiac as well as an ingredient in the manufacture of medicine. The current going price per pound for antlers at the right stage of development stands at \$18.00! Aphrodisiac or medicine, that's a hefty financial shot in the arm for a subsistence economy.

When one thinks of the Far North, reindeer herds might sound likely. Domestic cattle and sheep? Never. Everyone knows it's too cold up here, right? Wrong!

In its heyday, back in the 1930's and 40's, the Bureau of Land Management's Anchorage District grazing program consisted of more than 30 leases, most of them situated on the Aleutian chain, scattered from Kodiak to tiny



Chirikof Island. There were also allotments in BLM's Glennallen Resource Area in eastern Alaska.

One of the largest leases, some 20,000 acres, was a sheep ranch on Umnak Island. Here a plentiful supply of beach rye and fescue provided bountiful fodder for the ruminants.

A big threat to livestock is the infamous Kodiak bear. As soon as that prodigious critter found out that a beef or lamb feast was a palate pleasing treat, the Kodiak population became insatiable advocates of the qualities of this introduced food supply. It became such a problem that solutions had to be found. One rancher proposed experimenting with a small bison herd on the theory that they are less vulnerable to the bear and would use more of the range. You will find many herds of bison

roaming the grazing land of Alaska nowadays.

The buffalo's enormous bulk leads one to think it might be slow and ponderous. Actually, the reverse is true. It is nimble as a cat and mighty fast on its feet. That, coupled with its tremendous strength and size, tends to keep even the massive Kodiak bear a respectful distance away unless he's really hungry, and then he has a weighty battle on his hands if he hopes for a bison steak.

"There are strange things done in the midnight sun . . ." And it may be true that there are some who feel there could be something strange about raising cattle and sheep on remote and wind-swept islands, domesticating buffalo as a means to combat Kodiak bear attacks, a reindeer range program whose largest cash by-

product is an aphrodisiac used in the Orient. Yes, it may sound strange to people on the outside, but here in Alaska these are just ways that folks have found to coexist with nature and get along in what many may consider a fairly harsh environment, at least in winter. But, it's their part of the world and they have just found different ways to make do.

Strange things done in the midnight sun? Not strange. Innovative!

Joette Storm is a public affairs specialist with BLM's Anchorage District Office. Paul Savercool serves in the same capacity in BLM's Alaska State Office in Anchorage.



Please read this article before you say "yes" to anyone selling chances in the "government oil and gas lottery"

The Federal Simultaneous Oil and Gas Leasing System

By Mark Guidry

The public faces a barrage of newspaper, magazine, telephone, and direct mail advertisements promising quick wealth and fortune through "too good to be true" opportunities. You too, they suggest, can realize this American Dream for the asking—and for a price.

Perhaps you have been among those invited to take advantage of such an opportunity by entering a drawing for oil and gas leases on Federal lands. The ads or callers say: write for details, or send a check to cover the cost of a filing fee and other services, and have your name entered in the drawing.

Is it really possible to strike it rich? How slim are the odds and what are the risks? Here are the facts:

Lands that are not within any known geologic structure of a producing oil and gas field, commonly known as "wildcat" lands, are subject to leasing to the first qualified person making application for a lease. Such a lease is termed noncompetitive since it is obtained without competitive bidding. Most Federal oil and gas leases were obtained through this process.

When these noncompetitive leases expire, terminate, or are relinquished or canceled, the land becomes available for re-leasing.

Before 1960, these tracts were offered on a first-come, first-served basis. When particularly promising tracts were offered, long lines formed at the land offices. Fights often broke out, disrupting business and, in some instances, injuring employees trying to control the crowds. The simultaneous oil and gas lease drawing was developed to establish an orderly and fair system of awarding these noncompetitive leases.

Location of the Tracts

Most tracts offered for noncompetitive leasing are in the Western States where most of the public land is located. These are the States of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, and Alaska. Occasionally, a few tracts in Washington and Oregon are offered.

Tracts in the Midwest and East are also put up for noncompetitive leasing. The tracts are primarily in Alabama, Arkansas, Florida, Louisiana, Michigan, Mississippi, and Ohio.

Tracts range in size from 40 acres up to a maximum of 10,240 acres.

How the Drawings Work

Each BLM State Office prepares and posts a list of tracts and their

acreage that are available for re-leasing within its jurisdiction. These lists are posted on the first day of business for the months of February, April, June, August, October, and December. Lists may be viewed in the BLM State Offices or obtained from the State Offices by mail for a small charge, usually \$5 to \$10 per list. You may also obtain a limited quantity of the official, two-part computer application forms at no charge. (Larger quantities must be purchased from the Government Printing Office.) The BLM State Offices and their areas of jurisdiction are listed at the back of this magazine.

After you decide which tracts you wish to file on, complete the application, following the instructions on the form, and send it to the BLM State Office in Cheyenne, Wyoming, along with payment covering both filing fees (\$75 per parcel) and the first-year rental (\$1 per acre) for each parcel applied for. Applications must be received by the close of business on the 15th working day after the list is posted.

After the close of the filing period, if more than one application is received for a given tract, a computer-generated random selection is conducted to decide who will get the lease. Because of the heavy volume of applications nor-

mally received, selection does not occur until the following month.

One applicant is randomly selected for each numbered parcel. If the application selected is unacceptable or rejected, a reselection will be made by computer from the remaining applications. Each applicant is notified of the results of his/her application in the random selection. The advance rental will be refunded to nonwinners.

Which Parcel to Choose

How does an applicant determine which of the offered parcels are worth considering? Remember, these lands have all been leased

previously and are not known to contain deposits of oil and gas. Neither BLM nor any other Federal agency can make any recommendations concerning the potential value of any parcel offered for noncompetitive leasing. A decision to offer to lease any parcel appearing on the list is the sole responsibility of the applicant.

Any person who considers entering the oil and gas drawing should keep certain facts in mind:

- The land offered for leasing was formerly included in oil and gas leases that expired, terminated, or were relinquished or canceled.
- The land involved is not

recognized as being within a known geological structure of a producing oil or gas field.

- Your offer to lease is strictly a gamble. Since a very large percentage (90%) of the tracts won are never drilled on, your parcel may not have any potential for oil and gas even if you win the drawing. The more desirable parcels may attract hundreds—even thousands—of applications.

Suppose You Win a Lease?

Leases are issued for a 10-year period and so long thereafter as oil and gas are produced in paying quantities. A lease grants you



Clerks at the Bureau of Land Management's Wyoming State Office in Cheyenne process up to 200,000 simultaneous oil and gas lease applications for each bimonthly drawing.

the right to explore and drill for, extract, remove, and dispose of oil and gas deposits, except helium, that may be found in the leased land. It conveys no surface rights other than the right to develop those resources on the leased land. The lessee cannot build a house on the land, cultivate the land, or remove any minerals other than oil and gas.

Special restrictions on use of the leased parcels for oil and gas development are set forth in the list of available tracts prepared by the BLM State Offices. The leases are granted on the condition that an environmental assessment will be made before permission is granted to conduct any drilling activities. It is BLM's responsibility to assure that such an operation is environmentally acceptable.

Before any drilling operation can commence, the lessee or his operator must furnish a bond to assure compliance with all the lease terms, including protection of the environment.

Note: The regulations governing Federal oil and gas leasing are set forth in the Code of Federal Regulations (43CFR, Part 3100). Anyone filing a simultaneous oil and gas lease application should be familiar with these leasing regulations which are available from any BLM State Office.

What Is the Lease Worth?

Most people who acquire an oil and gas lease through the simultaneous leasing system do not intend to drill for oil or gas. The usual motive for entering the drawing is to sell their lease to an oil company or independent contractor for a profit.

The value of oil and gas leases varies greatly. None of the tracts offered have known potential for oil and gas production. In some cases, noncompetitive leases have brought substantial profit to the winners, but generally, these leases average only a few dollars per acre if resold.

If the lease is located in an area which may be attractive to in-

A WORD OF CAUTION

Some applicants use a "filing service" to select parcels. These services charge a fee to evaluate parcels on the basis of geological and marketing data; others offer maps and information about the activities of oil companies operating in the area where the various parcels are located. A third type of filing service charges a fee for selecting a parcel from the list posted by the Bureau and assisting the applicant in filing an application.

Neither BLM, nor any other Federal agency, endorses any filing service. None are connected in any way with the Federal Government.

Anyone considering the use of a filing service should carefully examine what services are offered and how big a premium is being charged beyond the required \$75 filing fee and the advance rental that must be paid to BLM for each filing.

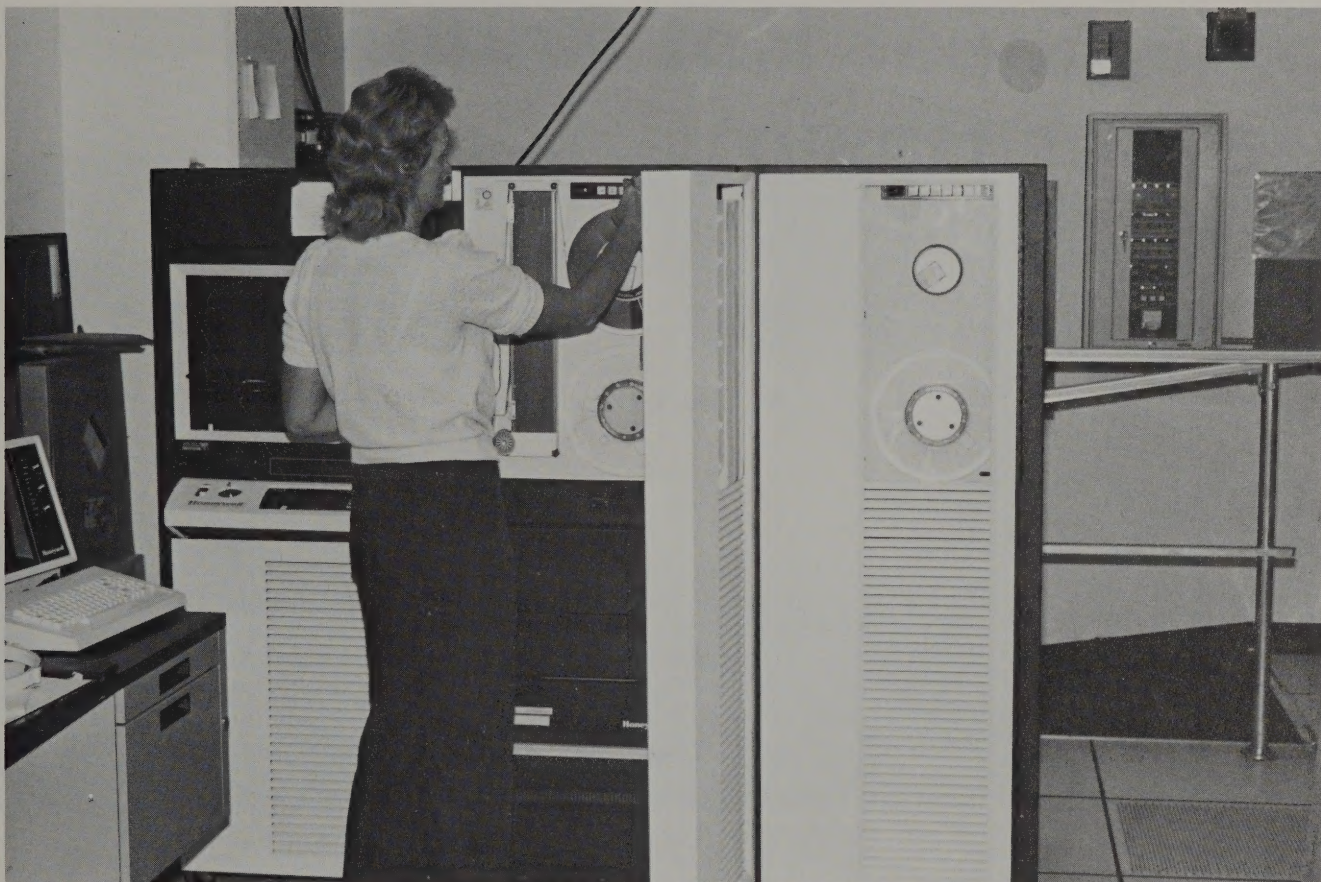
Be wary of filing services that

paint an overly optimistic picture of your chances of winning and making money. Consider that these firms may file for hundreds and even thousands of clients on a limited number of parcels, and the more interest these firms can generate in drawings, the more applications will be filed on each parcel, and the less chance each individual will have of obtaining a lease.

Possible sources of information on a filing service are the Better Business Bureau in the area where the firm is located, and the State, county, or local consumer protection agency. State consumer offices are located, in most cases, in the State capital. Local offices are listed in the telephone directory under the city or county government. A word of caution: Just because you can find no record of consumer complaints on a company does not mean it is reputable. Be persistent and wary in your use of filing services.



An optical mark reader transfers data directly from the simultaneous oil and gas lease applications onto computer tape.



A computer transmits data on computer tape in Cheyenne to the Denver Federal Center where tract winners in the simultaneous drawing are determined by a computer-generated random selection.

dustry, interested buyers may make an offer or offers. If the lease is located in a more speculative area, the lessee may have to search for a buyer.

A willing buyer will usually offer a lump sum for the lease. In some cases, the original lessee can negotiate to retain a royalty interest in any future production from the lease.

Termination of a Lease

Oil and gas leases acquired through the simultaneous system expire at the end of their 10th year, unless a well producing paying quantities of oil and gas has been developed. Leases without a producing well also terminate at any time the lessee fails to make full and timely payment of the an-

nual rental at the rate of \$1 per acre per year for the first five years of the lease and \$3 per acre per year thereafter to the proper BLM Office.

A lease may be canceled administratively by the U.S. Interior Department for failure of the lessee to comply with the requirements of the Mineral Leasing Act, the applicable regulations, or terms of the lease, if a valuable deposit of oil and gas has not been discovered on the land. Leases for lands where valuable deposits have been discovered may only be canceled by judicial proceedings.

What You Do Next

If you wish to participate in the drawing, here's how: Select the

geographical area of the United States that interests you. Using the listing of the BLM State Offices at the back of this magazine, locate the BLM State Office that is responsible for the geographical area you have selected. Write that State Office for information. The State Office will send you application forms and tell you how much it will cost you to receive by mail the first list from which you must select your tracts for the drawing. REMEMBER: All applications for ALL lands must be sent to the BLM Wyoming State Office in Cheyenne.

Mark Guidry is a public affairs specialist in BLM's Headquarters Office in Washington, D.C.

Steamboat Hot Springs Geyser Basin

By Chuck Otto

Tucked away on a small bench of land ten miles south of Reno, Nevada, is one of the most geologically interesting sites in the Great Basin—Steamboat Hot Springs, on public land managed by the Carson City District of the Bureau of Land Management (BLM).

Steamboat Hot Springs is easy to find, especially on cold mornings when large steam plumes rise over the area. Although many thousands of motorists see Steamboat Hot Springs every day from U.S. 395, only about 8,000 people each year actually drive up the quarter-mile gravel road to the parking area near the Main Terrace or central portion of the hot springs area. The few who take the time to explore this area are treated to the most concentrated display of geothermal features in Nevada.

The Main Terrace of Steamboat Hot Springs contains the second largest concentration of natural geysers in the United States. It is also the oldest known site in the world of continuous hot spring activity producing surface mineral deposits. It also contains a large portion of the only habitat of the Steamboat buckwheat (*Eriogonum ovalifolium* var. *williamsiae*), a candidate for the U.S. Fish and Wildlife Service's list of threatened and endangered plant species.

In recognition of these factors, BLM designated the Steamboat Hot Springs Geyser Basin as an area of critical environmental concern (ACEC) in 1983. ACEC status means that BLM will manage the area to protect these special values.

Some of Steamboat's local supporters have taken such a liking to the area that they have begun calling it a "mini-Yellowstone," but this is an exaggeration of the facts. Even the largest of the Steamboat geysers would be small by Yellowstone standards. Steamboat is not important for the size of its geysers, but rather because geysers are so rare in this country and in the world. Historically there were only seven geyser areas in the United States, and four of these were single geyser occurrences. Today only four areas remain. The others, including the Beowawe Geysers of central Nevada, which at one time were larger and more numerous than those at Steamboat, have largely been altered by man's activities.

Early day visitors to the area were impressed with the power of Steamboat. David Palmer, an English immigrant who came to Nevada to work in the mines of Virginia City, wrote in 1861, "The ground trembles here and scalding water sullies forth from cracks in

the earth. Jets of steam engulf the land and the air is heavy with the scent of brimstone and sulfur. From the bowels of the earth you can hear the sound of the devil's steam engines at work."

Things haven't changed much in the years since Mr. Palmer's visit. Today, however, we know that the steam engines he heard are actually subterranean geysers and probably the way Steamboat got its name. The roaring and splashing sounds of these features, which eject water above the water table but not above ground level, sound much like the pounding of a steam engine. If you visit Steamboat, you most likely will hear subterranean geysers rather than see them as they erupt beneath the surface.

The most numerous geothermal features on the site are fumeroles, or steam vents, which vary from very small "peepholes" to large "whistlers" and "blowholes."

Flowing and boiling hot springs are also numerous. In some of the quieter pools you may see long yellow or white filaments floating gracefully in the current. These are visible colonies of the rod bacteria (*Bacillus stercorophilus*) which survive in water temperatures up to 194 degrees Fahrenheit. As water from these springs flows across the terrace, it forms what is known as a



Visitors to the Main Terrace of Steamboat Hot Springs view an erupting geyser.

discharge apron. The heat-tolerant algae produce spectacular displays on these aprons as their colors, from yellows and oranges to blues and greens, vary with the change in water temperature.

Natural geysers are the main attraction at Steamboat, with more than 20 known geysers on the Main Terrace. Usually only three or four are active at any one time, and sometimes it is possible to tour the entire geyser basin and never see a single eruption. The odds are, however, that a patient visitor will see an eruption of one or more active geysers. Most of the geysers at Steamboat are small; eruptions range from several inches to a few feet. The largest active geyser at Steamboat is Hillside Geyser at the northern end of the terrace. This small crack in the ground throws water 15 feet in the air, and its accom-

panying steam plume rises to greater than 30 feet. The largest geyser on record at Steamboat erupted to more than 60 feet in 1860.

Fall, winter, and spring are the best times to visit Steamboat to see active geysers. The water table is close to the surface then, and the entire system seems to be more active. The geothermal features are changing constantly as the underground plumbing system changes. A geyser or hot spring may be active for months and then suddenly go dormant, while an adjacent feature that appeared inactive suddenly starts flowing or erupting. These changes are common and natural.

The north-south trending fault system of the Steamboat area is readily visible on the surface of the Main Terrace. These linear cracks have their origins deep

beneath the surface but are kept open by the work of steam vents and hot springs, whose acidic waters and vapors dissolve any accumulated sediments. When this thermal activity shifts its focus, the open fractures fill quickly with soil and other materials and are soon colonized by plant species. Mosses are common and flowers may be found blooming even in the dead of winter.

The Steamboat buckwheat lives in scattered clumps over the terrace, although the major colonies of the plant grow along the edges of the terrace where new soil is starting to form. The red and cream blossoms of the Steamboat buckwheat add a splash of color to this area in spring and early summer.

Over the years, Steamboat has been subject to a number of uses and abuses by man. Early

American Indians probably used the springs for many purposes. Their winter camps once sprawled along the banks of nearby Steamboat Creek. Miners from the Comstock era found that the waters of Steamboat Hot Springs contained tiny traces of gold, silver, and other minerals. Tunnels were dug, springs were drained and dug out, waters were analyzed, and wells were drilled, all to no avail, because the concentration of minerals was too small to be commercially valuable.

In recent years the area around Steamboat has become increasingly urbanized, and new problems have appeared, providing the impetus for the ACEC designation.

Vandalism, off-road vehicle (ORV) problems, littering, and illegal and hazardous activities were degrading and destroying the integrity of Steamboat. To implement ACEC protection for Steamboat, the BLM closed the area to ORVs, fenced the Main Terrace, and began patrols of the site. BLM has also been working with the Washoe County Parks and Recreation Department, recently leasing a 40-acre parcel of Steamboat to the county under the Recreation and Public Purposes Act for use as a regional park site.

Work at Steamboat to make the area suitable for public use is still

in the early stages. There are interpretative trails to develop, signs to install, trash to be cleaned up, hazards to be fixed, fences to be built, access requirements to be resolved, and boundary adjustments to be made. An active volunteer work program has been started, involving members of the local Toiyabe Chapter of the Sierra Club, the Geyser Observation and Study Association, and the Northern Nevada Native Plant

Society. Such public interest and support, along with cooperative management efforts by BLM and Washoe County, indicate that the Steamboat Hot Springs Geyser Basin will provide recreational, educational, and research opportunities for many years to come.

Chuck Otto is an outdoor recreation planner and forester for BLM's Lahontan Resource Area, Nevada



Members of the Geyser Observation and Study Association help BLM workers remove unnatural debris from a geyser vent at Steamboat Hot Springs.

Attractions of the Desert

By Stan Wilkerson

The roar of engines is deafening as the long line of vehicles comes charging across the dry lake bed in perfect formation. A flash of flame and a huge burst of white smoke suddenly blossom next to the armored motorcycle on the end of the on-charging line. A loud explosion is heard and in an instant the cycle and rider disappear into the storm of smoke and dust. The helmeted rider, catapulted through the air, falls heavily back to earth and sprawls motionless on the ground.

"Cut! Print it!," shouts the director. The fallen rider gets to his feet, removes his helmet, and walks out of the smoke, acknowledging the rest of the

crew with a smile and a wave. "Great stunt" and "good job" are shouted from the crowd. Thus, a few more scenes of the motion picture *Megaforce* are filmed and in the can.

This is filmmaking. But it's not Hollywood, it's Nevada!

Las Vegas and the public lands around it have long been a popular place for the motion picture industry. The proximity of so much varied desert and mountain terrain with the convenience and excitement of Las Vegas is a strong attraction to television and film production companies. Films such as *The Electric Horseman*, *Gauntlet*, *Smokey and the Bandit-Part II*, *Cannonball Run*, as well as

Megaforce, were filmed all or in part on Bureau of Land Management lands around Las Vegas.

Special permits to use public lands for commercial film production are issued by the BLM Las Vegas District Office. These permits establish rules designed to protect public resources on the lands and provide for any restoration or rehabilitation that might prove necessary.

Carved out of the 334 million acres acquired by the United States through the 1848 Treaty of Guadalupe Hidalgo, which ended the Mexican War, some 9.5 million acres, or about one-fifth of the State's 49 million acres, today comprise the Bureau of Land



One of the many attractions of the Mojave Desert is often the making of a movie. Shown here are armored vehicles used in the filming of *Megaforce*.

Management's Las Vegas District. And moviemaking is just one of the attractions.

Beauty and Excitement

At one time in the State's history, Nevada's Mojave Desert was considered little more than an obstacle to the human hordes bound for the more hospitable lands of California and the Northwest. Today, millions visit the arid region in search of the beauty and excitement of desert attractions.

Its appearance is deceptive. While it may appear to be barren, the Mojave Desert is home to a great variety of animal and plant communities and, at the same time, is the willing but fragile host

to countless outdoor recreational opportunities.

When you talk excitement, especially the excitement of off-road vehicle racing in Southern Nevada, one race stands alone as the premier off-road event, "The Mint 400." The race attracts record numbers of drivers, sponsors, and spectators, and has become one of the District's largest public participation events.

To many Nevadans, one of the primary uses of public lands is recreation. Off-road vehicle use, while very popular, is only one of many forms of recreation the desert public lands have to offer. Other attractions of the desert include camping, picnicking, boating, sailing on dry lake beds

as well as on water, hunting, hiking, wilderness experiences, and just plain sightseeing.

In a State where minerals were and still are a big part of its framework, rockhounds can find a veritable treasure chest of semiprecious stones to add to their collections and lapidary work. Agate, jasper, chalcedony, petrified wood, and turquoise are found fairly often in the District.

Red Rock Canyon

An opportunity to experience the beauty and majesty of the desert can be as easy as taking a short drive from downtown Las Vegas. Nearby, you will find 62,000 acres of public land that have been officially designated as



Environmental education classes at Red Rock Canyon have become an annual event for teachers in the Clark County, Nevada, School District.

the Red Rock Canyon Recreation Lands. Managed by BLM's Las Vegas District Office, Red Rock Canyon provides local residents and out-of-town visitors alike an opportunity for quality outdoor recreational and educational experiences.

The area gains its name from the brilliantly colored red sandstone rocks. Some of the cliffs in the recreation area rise more than 7,300 feet above the desert floor. By taking a short hike into the escarpment folds, one can experience places such as Lost Creek Canyon and other interesting places that feature waterfalls, unique rock formations, and ferns that have grown over four feet tall. In some areas, there are

pictographs and other artifacts left by past civilizations.

At the Red Rock Canyon Visitors Center, a facility designed and constructed so that it appears to be a part of the landscape, visitors are treated to a slide show that includes a succession of dioramas. A tape-recorded message broadcast through hand-held receivers explains the geology of the land and how plants and animals survive in the desert.

A 13-mile loop beginning and ending at the Center provides visitors easy access to points of interest, heads of hiking trails, and picnic areas. The loop can also be used for a scenic drive around the canyon floor.

For all its beauty, the desert can

be a dangerous and unforgiving trap waiting to spring on the careless or the unwary. The wise visitor will learn the ways of the desert, have an adequate supply of water, and take along the supplies and equipment necessary to prevent misfortune.

We have mentioned but a few attractions to be found in the desert. There is much more awaiting you there, if you resist the temptation to drive through it as quickly as possible. Slow down. Look. Listen. Learn. And may your visit be interesting, enjoyable, and safe.

Stan Wilkerson is a public affairs specialist in BLM's Las Vegas District Office.



Geology of the area and how plants and animals survive in the desert are explained in exhibits at the Red Rock Canyon Visitors Center, a facility designed to blend with the landscape.

Wagon Trains to Wind Energy

A Transition for the Desert

By James K. Woodworth

In the 1850's, freight wagon trains traveling the trails across the California Desert creaked grudgingly over the creosote bush-dominated landscape lying between the San Jacinto and San Bernardino Mountain Ranges.

Dust whirled skyward from the heavy wheels, where it was whipped by constant winds into the faces of teamsters farther down the long lines of wagons, bringing curses of frustration and condemnation to the windy, dusty low desert region.

Little did those early pioneers realize that one day those very winds would reap a profit for the United States Government. They would be amazed to learn that today a new technology, wind energy, now provides more than \$1 million in annual land rental revenues from a single site on lands administered by the federal Bureau of Land Management (BLM).

The site is San Geronio Pass in Riverside County. The wind that plagued the miners, freighters, and pioneers more than a century ago today produces welcome revenues to the U.S. Treasury as it blows

constantly through the hot desert, drawing ocean breezes through the pass. As the narrow pass squeezes the winds between the mountain ranges, the velocity increases until the wind expands to fill the vacuum of the widening valley.

This exciting concept in energy production in California got its start on July 26, 1982, when BLM began assisting industry in seeking to harness wind resources to help meet, at least in part, the projected electricity needs of the State by the year 2000.

The goal was innovative energy production to help reduce America's dependency on foreign oil and natural gas. The new method of generating electricity, while providing a new access to the low-cost energy market, also enhances the flexibility of energy production.

Currently, BLM has 12 parcels in California, totaling 3,000 acres, under right-of-way rental to six companies for wind energy production. There are 121 wind turbines located on just three of the parcels, producing energy for Californians and revenues for the

Federal Government.

Electricity production already exceeds 300 million kilowatt hours of energy. The potential of the area is estimated at more than one billion kilowatt hours.

Under the BLM right-of-way rental agreements, when two percent of a company's annual gross receipts from energy production exceeds what has been paid in rental fees, the company must pay a royalty to the Federal Government based on the difference between the rental paid and the two-percent figure.

Wind energy production, or planning for future production, is underway on public lands in the San Geronio Pass area, Tehachapi Mountains, Table Mountain Pass, and west-central San Bernardino County in California.

Today, where freight wagons trekked more than a century ago, row upon row of wind energy turbines stand against the sky between the mountains.

The silence of the desert is broken by a new sound, a kind of whump-whump-whump of helicopter-type blades, as more than a hundred turbines turn methodically in the winds to produce electric power for Southern California homes.

BLM managers say that developing the new technology has been a learning experience for wind energy company people and themselves. All have found the desert winds a source of interest and intrigue.

James K. Woodworth is a public affairs specialist in BLM's California State Office in Sacramento.

Wind energy turbines on public land at Tehachapi Pass produce power for California homes and revenue for the U.S. Treasury.

Photo by John Skibinski



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Pictured is Carole Colwell, a member of the Echoing Hoofbeats 4-H Club in Lewisberry, Pennsylvania, with Sir Echo, the 50,000th wild horse and burro placed in a foster home by the Adopt-A-Horse Program.

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